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Immobilization chemistries suitable for use in the BIAcore

surface plasmon resonance detector.

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AB Surface plasmon resonance detectors, such as the BIAcore instrument produced by Pharmacia, show promise for the detection and quantitation of macromolecular interactions in a label-free mode. Such detectors rely on the covalent immobilization of one of the interacting species onto the sensing surface. To date, the only published chemistry for this purpose

is

reaction of primary amino-containing ligands with an N-hydroxysuccinimide (NHS) ester-activated surface. In an effort to increase the versatility

of

the BIAcore with respect to immobilizing ligands, we undertook an investigation of activation chemistries compatible with this system.

Using

readily available reagents, we demonstrated that the carboxylated dextran-coated sensing surface could be easily converted to functions other than NHS-esters, including amine-activated, hydrazine-activated, and sulfhydryl-activated surfaces. In addition, use was made of the streptavidin/biotin interaction to probe chemical modifications of the sensing surface, by employing specifically modified biotin derivatives.